Before the Federal Communications Commission Washington, D.C. 20554

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))	GN Docket No. 17-142
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Reply Comments of Boingo Wireless, Inc.

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Summary

The record in this rulemaking is clear that tenants benefit from access to multiple carriers in multiple tenant environment ("MTE") locations when MTE owners enter into exclusive arrangements with neutral host distributed antenna system ("DAS") providers to design, build, promote, and manage DAS networks. MTE owners benefit from the neutral host's technical and management expertise, as well as financial commitment. The neutral host model also solves MTE owners' space and power issues and aesthetic concerns. Carriers benefit from the neutral host's design of a network that works to accommodate all carriers, including the use of diverse spectrum and technology. Tenants also benefit as the neutral hosts promote competition and are motivated to have as many carriers as possible join the network, this ensures that tenants have access to services from all carriers interested in joining the network. The record confirms these benefits and reflects that there is no need to regulate arrangements between MTE owners and neutral host DAS providers. In fact, regulating these arrangements would be harmful.

The Commission should reject any suggestion to expand the definition of MTEs or the scope of this proceeding to include public venues that lack multiple *tenants*. Moreover, there is neither a need, nor Commission authority to regulate non-common carrier DAS services generally, or the rates and terms of arrangements between non-common carrier DAS providers and government-owned venues.

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In the Matter of)	
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Improving Competitive Broadband Access)	GN Docket No. 17-142
to Multiple Tenant Environments)	
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Reply Comments of Boingo Wireless, Inc.

Boingo Wireless, Inc. ("Boingo"), by its attorneys, hereby replies to Comments in the above-referenced proceeding regarding access to broadband in multiple tenant environments ("MTEs"), and specifically, the Federal Communications Commission ("FCC" or "Commission") inquiry into access to distributed antenna systems ("DAS"). The consensus among commenters is clear: that regulation of DAS networks, particularly neutral host DAS networks, is unwarranted. This appears to be primarily driven by three factors: (i) that tenants and consumers are better able to access the services they want and need when an MTE owner provides access to wireless carrier services through a neutral host DAS network; (ii) that MTE owners are able to provide better and more comprehensive broadband access through multiple carriers when they work with a neutral host DAS provider; and (iii) that exclusive arrangements with MTE owners to provide DAS networks enable competition to thrive in MTEs.

I. Neutral Host DAS Providers Create Competitive Opportunities for Carriers, Offer Critical Services to MTE Owners, and Provide Tenants with More and Better Access to Their Service Providers.

The record in this proceeding demonstrates that *neutral host* DAS providers offer a comprehensive, efficient, and cost-effective solution to carriers and MTE owners for wireless broadband deployment in MTE locations to the ultimate benefit of tenants. By deploying a

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Improving Competitive Broadband Access to Multiple Tenant Environments, Notice of Proposed Rulemaking, GN Docket No. 17-142, FCC 19-65 (rel. July 12, 2018) ("NPRM"). See also Public Notice, Wireline Competition Bureau Announces Comment Dates for NPRM on Improving Competitive Broadband Access to Multiple Tenant Environments, GN Docket No. 17-142, DA 19-730 (rel. July 31, 2019).

shared network, neutral host DAS providers are able to lower the cost for carriers to provide services to tenants in MTE locations while also streamlining MTE carrier access requirements by shortening the time for carriers to provide services at MTE locations and coordinating radiofrequency issues to ensure that all carriers can operate seamlessly in MTE locations.²

Neutral host DAS providers promote fair and competitive access to MTE locations. As commenters have explained, neutral host DAS providers also manage MTE owners' business and technological relationships with carriers, using their expertise to design and build networks that will meet MTE owner and tenant needs, accommodate the specific technical requirements of each interested carrier, reduce costs to MTE owners while limiting the aesthetic impact of a DAS network on an MTE building.³

Incompas notes similar benefits offered by neutral host providers of rooftop access. *See* Incompas Comments at 19 ("[n]eutral host providers create opportunity for wireless broadband competitors by readying rooftops for access by multiple providers").

See Wireless Infrastructure Association ("WIA") Comments at 7-9 ("shared-infrastructure model lowers barriers to entry for new market participants and encourages broadband deployment by providing cost-savings and enhancing a carrier's speed to market ... neutral-host DAS networks shorten a carrier or service provider's time to market, streamline deployment requirements, and promote competition ... [a] neutral host DAS operator brings considerable experience in managing complex RF issues on a building-by-building basis and can ensure that multiple carriers are able to operate seamlessly in an indoor environment"); Crown Castle Comments at 5 ("a neutral host operator who enters into a DAS agreement with an MTE opens to all carriers the ability to serve the MTE's tenants and visitors"); and ExteNet Systems ("ExteNet") Comments at 6 ("[c]ompetition is not only preserved ... it is encouraged as success of the neutral host model requires securing multiple telecommunications providers for a building").

See WIA Comments at 8 ("[c]ommon infrastructure is also typically preferable for MTE owners and managers from an aesthetic perspective. ... many building owners do not have the requisite expertise to deploy networks, nor do they have the resources or time necessary for this significant task, so neutral-host operators offer critical services to meet building owners' needs"); Government Wireless Technology & Telecommunications Association ("GWTTA") Comments at 3 ("most building owners do not have the in-house expertise to design, manage, operate, and repair communications infrastructure"); and Real Estate Associations ("REA") Comments at 87 ("a third-party contractor ... may be able to build and manage a neutral host system more cost-effectively than the property owner acting alone, which will be more efficient over the long term than addressing problems as they arise ... [and such] arrangements ... can reduce the expense to the owner").

By providing these benefits and services to MTE owners, and by providing access to *all* carriers, neutral host DAS networks ultimately benefit tenants in MTE locations, providing them with robust access to multiple carrier networks.⁴ A neutral host DAS network makes it far more likely that MTE tenants will have access to their wireless service provider's network at the MTE location.

A. Neutral Host DAS Providers Facilitate Tenants' Broad Access to Their Service Providers.

The Commission's goal in this proceeding is to ensure that the tenants who live and work in apartments, condominium buildings, cooperatives and office buildings have access to broadband.⁵ In the case of mobile broadband services, this often means that MTE owners will need to provide multiple carriers with access to the MTEs. This entails entering into complex business arrangements requiring technical expertise, managing relationships with carriers, negotiating interference issues, managing physical space limitations, and maintaining aesthetic appearances of their buildings. As commenters in this proceeding explain, MTE tenants have the greatest access to wireless broadband services from multiple wireless carriers when MTE owners work exclusively through a neutral host DAS provider.⁶

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Tenants also benefit when MTE owners enter into exclusive arrangements with neutral host DAS providers because neutral hosts proactively market and solicit carrier interest in MTE locations which carriers may not be actively pursuing. Such exclusive arrangements actually facilitate the expansion of carrier coverage at MTE locations to the benefit of tenants that have been underserved by carriers.

See NPRM at ¶ 1 and note 2.

While Incompas focuses on rooftop exclusivity in its comments and argues that the "Commission should prohibit exclusivity agreements intended to create scarcity or monopoly access to MTE rooftops ... [and] should prohibit all anticompetitive terms or conditions that otherwise make it difficult for competitive providers to add facilities to MTE rooftops," Incompas pivots and urges the Commission to "distinguish neutral host providers ... [because they] create opportunity for wireless broadband competitors by readying rooftops for access by multiple providers." Incompas Comments at 19. In the same way, neutral host DAS providers create opportunity for wireless broadband competitors by readying MTE buildings for access by multiple providers. Similarly, after referencing the historical benefits of collocation on existing

MTE owners often receive multiple requests from carriers that want to access their MTE buildings, but without having a willing neutral host DAS provider to manage and coordinate carrier access, some carriers may be denied access to MTE buildings because access that is carrier specific can result in interference issues, space exhaustion, and drain on MTE management resources. Boingo agrees with Crown Castle that "prohibiting exclusive DAS agreements with neutral host operators may decrease tenant choice if the MTE, because of aesthetic or space concerns, limits entry to one or two [wireless carrier] DAS providers."⁷ Crown Castle also has suggested that "[w]ireless carrier-operated DAS operators also may have incentives to limit access to their competitors, which would reduce consumer choice and limit competition within an MTE." The record demonstrates, however, that tenants benefit from broad access to their wireless service providers when an MTE engages a neutral host to install and manage a DAS system because all carriers can join the network, thereby neutralizing anticompetitive behavior among carriers, and also because the neutral host is able to manage space limitations, coordinate power and frequencies to avoid or limit interference, and control the aesthetic impact of access.

structures for expansion of coverage, increasing capacity, or deploying new services, Crown Castle compared how "[n]eutral host DAS ... providers that have exclusive arrangements with an MTE offer in-building collocation arrangements that are the equivalent of the collocation model on towers." Crown Castle Comments at 9. Finally, GWTTA stresses the importance of the Commission separating "telecommunications carriers from providers of telecommunications services who are not themselves carriers ... [as] [s]uch providers have been a vital part of the growth of in-building communications." GWTTA Comments at 2.

Crown Castle Comments at 12.

Id.

B. Neutral Host DAS Providers Offer MTE Owners Expertise to Design, Build, and Operate the Network and to Manage Carrier Access to the Network.

Boingo previously commented on how MTE owners benefit from neutral host DAS providers that design and build a DAS network at no cost to the MTE owner.⁹ The financial benefits are significant, 10 but equally important is how neutral host DAS providers provide technical and management expertise. GWTTA correctly states that "most building owners do not have the in-house expertise to design, manage, operate and repair communications infrastructure." ¹¹ Boingo agrees with GWTTA that the ability of MTE owners to contract for this expertise should not be impaired. ¹² Indeed, Boingo's own experience working with MTEs has been similar to Crown Castle's in that "MTEs are not adequately staffed and knowledgeable about the telecommunications infrastructure industry and, therefore, desire an exclusive partnership with a neutral host DAS operator to take care of it all." Again, MTE tenants benefit when MTE owners provide as many carriers as possible with access to their buildings, and for many MTE owners, the best way to accomplish this is to contract exclusively with a neutral host DAS provider. 14 Without a neutral host DAS provider to facilitate such broad access, carrier access to MTE buildings may be limited, thereby limiting tenant access to broadband services. 15

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See Boingo Comments at 4.

The Real Estate Associations note that "a third-party contractor ... may be able to build and manage a neutral host system more cost-effectively than the property owner acting alone, which will be more efficient over the long term than addressing problems as they arise ... [and such] arrangements ... can reduce the expense to the owner." Real Estate Associations Comments at 87.

GWTTA Comments at 3.

See id.

¹³ Crown Castle Comments at 12.

[&]quot;[F]ailure to ensure service within the [MTE] building for all major carriers is a competitive impediment for any building owner. This is borne out by studies that show that access to communications infrastructure is a prime tenant concern. Thus, any suggestion that

MTE owners also have a reasonable interest in preserving building appearances. Neutral host DAS providers are able to limit the number of antennas and/or other attachments on a building. ¹⁶ Indeed, Boingo's experience working with MTE owners is similar to that of Crown Castle's: "MTEs are ... at times, very sensitive to aesthetic impacts, and having multiple carriers with their own standalone technologies will have a greater aesthetic impact." Neutral host DAS providers are uniquely capable of minimizing the impact that broadband access networks have on the aesthetics of a building, while also enabling all carriers to access MTE buildings and their tenants. As such, MTE owners should be permitted to enter into exclusive agreements that address their aesthetic goals, particularly when such agreements are with neutral host DAS providers.

building owners or third-party vendors are 'freezing-out' carriers from accessing a building are unfounded." GWTTA Comments at 4 (footnote omitted).

Limiting carrier access also would have another potentially serious public safety impact on tenants. Boingo agrees with GWTTA that if the FCC were to "impose additional requirements on third-party providers in costs, requirements to accommodate carriers at low or no-cost, or to share facilities for which they have paid significant sums to deploy, the DAS market will simply disappear, leaving building owners unable to provide for their tenants and occupants and/or meet building codes, robbing carrier competition and life safety." GWTTA Comments at 3. T-Mobile notes that "lack of ubiquitous wireless service – which DAS helps to address – is a public safety concern." T-Mobile Comments at 4. What T-Mobile fails to acknowledge is that a neutral host DAS provider offers the best opportunity to provide ubiquitous wireless service and therefore to ensure that public safety concerns are met in an MTE building because all carriers are able to join the network.

WIA notes that "[b]y streamlining connections, the cabling and equipment associated with neutral-host DAS networks also occupy less physical space within dense, space-constrained MTEs. Common infrastructure is also typically preferable for MTE owners and managers from an aesthetic perspective." WIA Comments at 8.

¹⁷ Crown Castle Comments at 12

C. Neutral Host DAS Providers' Facilitate Competition and Innovation Because They Are Motivated to Have Multiple Carriers Join the Network and to Support Multiple Technologies.

Sprint, T-Mobile, and Public Knowledge suggest that exclusive agreements with DAS providers stifle competition and result in an effective monopoly.¹⁸ To the contrary, neutral host DAS providers are naturally pro-competitive.¹⁹ Their business goal is to have multiple carriers join the network,²⁰ which aligns perfectly with the Commission's goals of ensuring that MTE tenants have access to broadband networks.

It is in Boingo's and the MTE owner's best interest to market the DAS networks that Boingo builds to as many carriers as possible to maximize efficiency and value to both Boingo and MTE owners. Indeed, as Boingo noted in its comments, it "designs and builds the DAS network, typically at no cost to the MTE owners and in some instances, without carrier agreements already in place." Absent exclusivity, however, Boingo would not bear the financial risk of designing and installing DAS networks.

Boingo agrees with WIA that "[i]t is to the benefit of the neutral host DAS operator to have multiple ... [carrier-customers], which helps lower cost of all ... [such carriers] involved and promotes broadband deployment." Crown Castle correctly explains that "neutral-host operators have an interest in marketing to and ultimately hosting as many carrier customers as possible, which allows the market to promote additional broadband deployment using existing

See Sprint Comments at 1, T-Mobile Comments at 4, and Public Knowledge Comments at 11.

Incompas urges the Commission to permit neutral host providers exclusive rooftop rights because "[n]eutral host providers create opportunity for wireless broadband competitors by readying rooftops for access by multiple providers." Incompas Comments at 19. Although focused on rooftop access, Incompas' comments are equally applicable to DAS systems.

[&]quot;DAS networks typically support multiple service providers, and it is to their benefit to do so." WIA Comments at 5.

Boingo Comments at 4.

WIA Comments at 11-12.

structures."²³ Similarly, ExteNet explains that the "success of the neutral host model requires securing multiple telecommunication providers for a building."²⁴

Neutral host DAS providers also are naturally motivated to build and update networks to support multiple technologies. A neutral host DAS provider's business model depends on attracting as many carriers to join the network as possible, and that means they must build networks that accommodate multiple technologies, as well as update those networks as technologies evolve and advance. Boingo agrees with ExteNet that in order to "accommodate multiple carriers, neutral host providers find themselves required to use technology that is compatible with all carriers and to constantly upgrade such technology to the greatest extent possible to remain relevant in a rapidly evolving and highly competitive space."²⁵ Like Crown Castle, another neutral host DAS operator, it is also Boingo's practice to "upgrade equipment as market conditions demand in order to keep up with technological advances."²⁶ There is no need to adopt regulations that would require a DAS network operator to take into account the compatibility of its system with potential future provider occupants²⁷ because, as WIA states, "[a] neutral-host, in-building DAS operator has significant incentives to make its network as technologically flexible as possible. ... DAS infrastructure is capable of not only supporting multiple customers, but also of evolving with advanced technologies including advancing from LTE to 5G."28

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Crown Castle Comments at 12; *see also* Crown Castle Comments at 5 (where there is exclusive access to rooftop and DAS, a neutral host's "business objective is to market and lease the rooftop/DAS to multiple communication providers").

ExteNet Comments at 6.

²⁵ *Id.* at 9.

²⁶ Crown Castle Comments at 13.

See Boingo Comments at 8.

WIA Comments at 15.

Finally, Boingo disagrees with Sprint's claims that the "DAS are not typically designed for Sprint's 2.5 GHz spectrum." Boingo works with all interested carriers to ensure that the network accommodates their spectrum, and Boingo's networks are capable of supporting multiple frequencies, including 2.5 GHz. Further, when Boingo designs a network, all carriers using the network will typically share the costs of the shared common infrastructure. If an upgrade to support only one carrier is requested, then other, non-participating carriers are not required to share in the costs of such carrier-specific upgrade. Boingo works constantly to ensure that carrier costs are reasonable because its goal is to ensure that as many carriers as possible join the network.

II. The Benefits That Neutral Host DAS Providers Offer Depend on Exclusivity Arrangements with MTE Owners.

As the record in this proceeding demonstrates, neutral host DAS providers are uniquely capable of providing multiple carriers with efficient and economic access to MTE buildings; providing significant value to MTE owners; and most importantly, providing tenants and consumers with access to multiple carriers. Boingo previously stressed the importance of exclusive arrangements in order to be able to provide these benefits.³⁰ Boingo often designs and builds a DAS network at no cost to the MTE owner and without having established carrier agreements to join the network. This involves a significant investment and a certain amount of risk by Boingo.³¹ WIA aptly comments that the exclusive agreements that DAS providers enter into are really management agreements that provide building owners management services for RF interference and carrier access and that in exchange for the risks associated with deploying DAS networks DAS providers enter into contracts for a term of years that provides the

Sprint Comments at 3.

See Boingo Comments at 6-7.

Crown Castle also notes that "neutral host DAS operators spend a great deal of effort and money to negotiate the ability to build out DAS in each MTE." Crown Castle Comments at 11.

"infrastructure owner with some certainty that the investment can be recouped ... without interference from others" and "protects the deploying-company's investment by requiring any inbuilding wireless carrier deployment within the MTE to be via the existing DAS network."

Boingo agrees with Crown Castle that "allowing other carriers to deploy their own coverage solutions despite existing DAS agreements would undermine the incentive for neutral host DAS operators to deploy DAS technology."³³ There is no evidence that the market is failing with regard to carriers being able to access MTE buildings reasonably and efficiently through neutral host DAS providers. In the absence of market failure, regulating away the incentive for neutral host DAS providers to build networks that accommodate all carriers and that minimize financial and administrative impact on MTE owners will undoubtedly negatively impact MTE tenants because neutral host DAS networks will evaporate, along with the benefits they provide to MTE owners, tenants, and consumers.

III. The Scope of the Rulemaking Should Not Be Expanded to Include Public Venues Lacking Multiple Tenants or to Apply to Small Cells.

In its comments, Sprint seems to assume that large public venues such as stadiums, airports, shopping malls, and convention centers are MTEs covered by this rulemaking and recommends that the Commission to take action to regulate access to, or installation of, DAS and small cells.³⁴ The Commission should reject this assumption and all of Sprint's recommended actions.

WIA Comments at 10-11.

Crown Castle Comments at 11-12.

See Sprint Comments at 1.

The FCC has not proposed to modify the definition of what constitutes an MTE in this rulemaking, nor should it.³⁵ The buildings/environments subject to current MTE access regulations, and those proposed in this rulemaking, are the buildings/environments that are occupied by multiple *tenants*. Boingo agrees with Crown Castle that the "Commission should be careful not to imply that the definition of MTE includes venues such as stadiums, arenas, hospitals, transit systems, and other environments that traditionally lack multiple tenants." The FCC has determined that buildings like hotels are not subject to the prohibition against exclusive contracts because hotel guests are not tenants, but rather transient guests. Boingo agrees with Crown Castle that "[b]ecause venues such as hospitals, stadiums, and arenas also have primarily transient guests, the same rationale applies." Expansion of the definition of MTE to include public venues lacking multiple *tenants* is inconsistent with the purpose of the MTE regulations and beyond the scope of the rulemaking.

Similarly, Boingo opposes Sprint's efforts to expand MTE regulations to carrier-installed small cells in MTEs.³⁹ That is beyond scope of this proceeding.

IV. The Commission Lacks Authority to Regulate Non-Common Carrier DAS Services.

As discussed above, the market for the provision of DAS is working and efficient, particularly when DAS is provided by a neutral host DAS provider, and the Commission should not intervene to impose access, technical or rate regulation requirements. Such regulatory

Similarly, Boingo opposes T-Mobile's proposal that the Commission should consider expanding application of MTE regulations to venues that have not been historically defined as MTEs. *See* T-Mobile Comments at 2.

³⁶ Crown Castle Comments at 6.

See Promotion of Competitive Networks in Local Telecommunications Market et al., 15 FCC Rcd 22983, n. 92 (2000) ("2000 Competitive Networks Order") (noting that "hotels, or similar establishments, are not covered by the prohibition against exclusive contracts because hotel guests are not 'tenants' within the meaning of our rules.").

Crown Castle Comments at 6.

See Sprint Comments at 9.

intervention would distort the marketplace, and actually lead to less, rather than more, carrier access to MTEs and other spaces.

Moreover, numerous parties correctly question the Commission's authority to regulate DAS. 40 For example, Crown Castle explains that neutral host DAS operators have not been classified as providing telecommunications services, and that even if a particular DAS system may be providing telecommunications, the determination of whether the DAS service is a common carrier offering is a fact-specific determination. 41 DAS network management services are not telecommunications services, and many DAS network providers, such as neutral host providers like Boingo, are not common carriers. Accordingly, the Commission may not rely on Section 201 to broadly regulate access to DAS.

Sprint and T-Mobile suggest that the Commission has authority under Section 253(a) of the Act to regulate the terms and rates of DAS agreements relating to government-owned venues.⁴² Sprint requests that the Commission prohibit exclusive agreements and regulate the rates DAS providers charge for access to DAS in such venues.⁴³

Boingo opposes Sprint's broad request for the Commission to engage in rate regulation of the provision of non-common carrier DAS services in these non-MTE venues. Among other things, Boingo disagrees that Section 253 of the Act provides the authority for the Commission to interfere with the ability of states and local governments to manage their venues, *as any other*

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See, e.g., Crown Castle Comments at 15-17; WIA Comments at 14 ("Some companies that build or manage an in-building DAS network may not be common carriers.").

See Crown Castle Comments at 16. Crown Castle also notes that to the extent that a carrier-provided DAS offering is a common carrier service, then a requesting customer may avail itself of the Section 208 complaint process if such customer faces discrimination or unreasonable charges, and therefore, there is no need for the Commission to take additional action to regulate access to, or fees for, such common carrier DAS offering. See Crown Castle Comments at 17-18.

See T-Mobile Comments at 17-18; Sprint Comments at 7-9.

See Sprint Comments at 9.

property owner or manager, by entering into beneficial contracts with neutral host DAS providers who provide expertise and resources for the design, construction, operation and management of neutral host DAS systems. Moreover, as discussed above, these venues are *not* MTEs and are beyond the scope of this proceeding.

As discussed above, commenters in this proceeding have demonstrated neither the need, nor the authority for the Commission to regulate the provision of DAS by neutral host DAS providers like Boingo.

Conclusion

When MTE owners are free to enter into exclusive arrangements with neutral host DAS providers, tenants benefit from robust access to services from multiple carriers. Neutral host DAS providers facilitate competitive access to MTE buildings because they are motivated to have multiple carriers join their networks, which in turn benefits tenants. Neutral hosts also provide critical management services to MTE owners, which facilitate multiple carriers joining the DAS network. As such, neutral hosts are uniquely positioned to help the Commission meet its goal of ensuring that the tenants who live and work in apartments, condominium buildings, cooperatives and office buildings have access to

broadband and Boingo believes strongly that there is no need or justification for the Commission to regulate what is already working.

Respectfully submitted,

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